# Embryonic Stem Cell Research: Off Limits?

## *Two Ethicists Discuss a Technological Breakthrough in the Context of Catholic Health Care*

BY RON HAMEL, PhD; & MICHAEL R. PANICOLA, PhD

*Dr. Hamel is senior director, ethics, Catholic Health Association, St. Louis; and Dr. Panicola is corporate vice president, ethics, SSM Health Care, St. Louis.*

Human embryonic stem cell research (ESCR) is probably the most significant and compelling area of medical research today, whether in reality, in perception, or both. The pressures to engage in this research are considerable, given potential scientific and economic benefits; the prestige likely to accompany new discoveries; and the urging of prominent citizens, the general public, and legislatures. Advances in ESCR, if and when they occur, will only add to the already enormous push for research. They will contribute to fear among those who are *not* engaged in such research—fear of being left behind, of not being at the forefront of potential new discoveries and cures for some of the worst human diseases and injuries.

Catholic hospitals that support an active research agenda will likely find themselves in a difficult position in the face of pressures to conduct ESCR. Many already do. Catholic teaching, however, is clear. It is not morally licit to obtain ESCs directly from human embryos because doing so results in their demise.[1] Because Catholic teaching holds that human life begins with conception, such procurement constitutes a form of abortion. In *Evangelium Vitae,* Pope John Paul II, reiterating previous teaching, states that "from the time that the ovum is fertilized, a life is begun which is neither that of the father nor the mother; it is rather the life of a new human being with his own growth. It would never be made human, if it were not human already."[2] And after condemning all forms of abortion, even if done to help others, the pope writes: "The evaluation of the morality of abortion is to be applied also to the recent forms of intervention on human embryos which, although carried out for purposes legitimate in themselves, inevitably involve the killing of those embryos."[3]

Speaking more explicitly about embryonic stem cell research, the Pontifical Academy for Life, in its 2000 "Declaration on the Production and the Scientific and Therapeutic Use of Human Embryonic Stem Cells," affirms the same position. In response to the question "Is it morally licit to produce and/or use living human embryos for the preparation of ES cells?" the academy states that "the ablation of the inner cell mass (ICM) of the blastocyst, which critically and irremediably damages the human embryo, curtailing its development, is a *gravely immoral* act and consequently is *gravely illicit.*"[4] The academy's reason for concluding thus is the same as that of John Paul II: The embryo, from the moment of the union of the gametes, is a human subject with a right to its own life.

What seems less clear to some is whether it would be morally licit for researchers at Catholic hospitals to make use of ESCs that have been derived from embryos (and fetuses) that were *destroyed previously by others;* from derivations, that is, in which the killing act is separated from either the research or the therapy, and in which the ESCs being used for research are perhaps generations removed from the original cells. For the Pontifical Academy for Life, there is no lack of clarity. Even in this situation, the academy says, the use of ESCs is morally prohibited. In response to the question "Is it morally licit to use ES cells, and the differentiated cells obtained from them, which are supplied by other researchers or are commercially obtainable?" the academy replies: "*The answer is negative,* since: prescinding from the participation—formal or otherwise—in the morally illicit intention of the principal agent, the case in question entails a proximate material cooperation in the production

and manipulation of human embryos on the part of those producing or supplying them. [5]

But is it really the case that using ESCs produced by others would constitute proximate material cooperation and, therefore, be morally illicit?

In this moral analysis, we wish to consider three issues:

- The use of ESCs that have been derived by others from human embryos for research in Catholic hospitals
- The use of ESCs that have been derived by others from aborted fetuses for research in Catholic hospitals
- The use of therapies in Catholic health care facilities that are the result of research employing human ESCs derived by others, whether from embryos or aborted fetal tissue.

Each of these situations involves some manner of complicity in evil. Can that complicity ever be morally justified?

### The Use of ESCs Derived by Others from Human Embryos for Research in Catholic Hospitals

Would it be morally permissible for researchers in Catholic hospitals to employ ESCs that have been derived by others from human embryos—frozen or cloned? [6] In this situation, the evil of destroying human embryos by extracting their stem cells occurred in the past through the actions of other researchers who, in turn, cultured the stem cells to increase their number. Present day researchers are acquiring stem cells that are most likely generationally quite distant from their original sources. Because *these* researchers did not participate in or contribute to the procurement of the original stem cells and the consequent destruction of the embryos, they cannot be said to be "cooperating in evil." Cooperation implies that the cooperator's action contributes in some way to the principal agent's evildoing. But one cannot contribute to an action that has already occurred. Present day researchers, however, do benefit from that past illicit action and, in this way, they are somehow complicit in the evil that has been done. They, in effect, have "appropriated" the evil of others in the pursuit of their research goals. [7]

**It is not a matter of doing evil to achieve good. It is, rather, a matter of trying to extract good from the evil that has been done by others.**

Even though these researchers did not participate in or contribute to the past action of destroying embryos, the question remains: Do they, explicitly or implicitly, intend or approve of this past destruction so that they might obtain ESCs in order to pursue their research? [8] To either intend the evil or approve of it is morally wrong. It is certainly conceivable that researchers working in a Catholic facility believe that the manner in which the original stem cells were obtained is morally evil. They neither condone the actions nor wish to see them continue. In fact, they may well be opposed to the destruction of human life in any form. From their perspective, the ESCs exist and perhaps great good might come to others out of the evil that has been done. For them, it is not a matter of doing evil to achieve good. It is rather a matter of trying to extract good from the evil that has been done by others. Of course, it is also possible that some (or many) of these researchers either intend or approve of the derivation of ESCs from human embryos, in which case the research would not be morally acceptable.

If, in fact, the only ESCs were those in existence prior to President Bush's address to the nation on August 9, 2001 (in which he outlined the ESCR eligible for federal funds), and no additional ESC lines had been developed after that speech, it might be possible to morally justify the use of these ESCs by researchers in Catholic hospitals for the reasons discussed above—they did not participate in or contribute to the destruction of those embryos, nor do they intend or approve of their destruction (assuming that is the case). [9] However, the procurement of ESCs from human embryos continues. [10] It did not end with Bush's address and, if anything, will only increase in the future with the increasing demand for ESCs. [11]

Given continuing procurement and the consequent ongoing destruction of human embryos, how are we to assess the use of ESCs by researchers in Catholic hospitals? While it is true that some of the wrongdoing from which the researchers are benefiting occurred in the past, some may be occurring in the present and some will likely occur in the future. This raises the possibility of cooperation in evil (rather than appropriation of evil) on the part of such researchers. Even though they are not themselves procuring stem cells from embryos (and, hence, causing the demise of the embryos, which would be morally wrong) and may not explicitly intend or approve of their demise (which would be formal cooperation and also morally wrong), do they nonetheless contribute in some way, directly or indirectly, to embryo destruction in the present?

Let us first consider intention. While it is plausible that researchers in Catholic hospitals do not intend or approve of the *past* destruction of embryos in order to obtain stem cells, it becomes very difficult to maintain the same when the evildoing continues in the present and is likely to do so in the future. This would especially be true if the researchers were to engage in periodic trans-

actions with the wrongdoers in order to obtain additional ESCs. Would it not seem that these researchers at least *implicitly* intend or approve of the ongoing means by which the ESCs become available? Insofar as this is the case, we would seem to have a situation of *implicit formal cooperation* in the wrongdoing that is occurring and will occur, and it would not be morally permissible for the researchers in the Catholic hospital to make use of the ESCs derived by others. Intending or approving of evil, even implicitly, is not morally acceptable.

Second, let us consider the acquisition of stem cells by the researchers in the Catholic hospital (whether once or more often) in a context in which the development of ESC lines continues. Do the researchers, by acquiring the ESCs from the wrongdoers, contribute something to the actions of the wrongdoers—namely, a reason for the wrongdoing to occur and to continue? Acquiring ESCs contributes to a demand for them, which would, in effect, encourage further procurement and the consequent further destruction of embryos. In addition, the very acquisition of the stem cells seems to encourage, support, or lend legitimacy to the ongoing destruction. [12] Viewed from the perspective of the principle of cooperation, this would seem to constitute at least *mediate material cooperation.* Such cooperation is not necessarily morally wrong, but it must be justified by a proportionate reason. Does such a proportionate reason exist? The best possible reason is that research employing ESCs might result in the relief of enormous human suffering for millions of people. It might also be to the benefit of the researchers and the institution. But do these results, praiseworthy though they are, offset a contribution to the ongoing destruction of early human life? This seems doubtful.

A third major consideration in applying the principle of cooperation is scandal. We employ the word here in the technical sense of "leading another into sin." Could researchers in a Catholic hospital who make use of ESCs cause scandal? This is a matter of judgment and will depend on a careful assessment of the particular situation. Certainly, it is conceivable that individuals who are aware of this type of research occurring in a Catholic hospital might come to the conclusion that early human life is of little value, which conclusion could contribute to decisions on their part that would be deemed immoral. This need not necessarily occur, however. Its likelihood could be diminished with good educational efforts that explain what is going on and provide the ethical rationale. Such an explanation, however, would seem to be considerably more challenging if the acquisition happens more than once and if the researchers appear to be giving legitimacy to the ongoing destruction of embryos. In any case, the assessment of the possibility of scandal is difficult and needs to be undertaken with great care.

In addition to these three considerations related to the principle of cooperation, other considerations should be taken into account in trying to arrive at a judgment about this issue. One such consideration is whether the use of ESCs by researchers in Catholic hospitals would diminish the Catholic witness to the sacredness of human life from conception till death; and, by doing so, directly or indirectly contribute to a diminishment in respect for the value of early human life, whether within the hospital walls or in the larger society.

**Scandal is a third major consideration in applying the principle of cooperation.**

Here, we believe, the burden of proof is on the researchers and the Catholic hospital because a commitment to the sacredness of all human life is so fundamental to Catholicism and to Catholic health care. Let us hasten to add, by way of caution, that this underscoring of the sacredness of human life is in no way meant to lessen the importance of other fundamental commitments of the Catholic-Christian tradition and of Catholic health care, such as healing and the relief of pain and suffering. These, too, need to be considered in any moral assessment.

Another consideration has to do with the effect of the use of ESCs, even those derived by others, on the moral character of individuals and of several different communities (e.g., the hospital, the local community, society at large). As Cathleen Kaveny observes: "The main effect of a decision to appropriate the evil action of another is internal; by choosing to tie their action to the evil act of another, appropriators shape their characters in a way that may not have immediate, tangible consequences in the external world. In short, the immediate impact of the decision to appropriate the illicit act of another is a deeply interior one; it alters the character of the appropriator." [13]

Would our moral characters be enhanced or diminished by employing human ESCs to pursue cures and treatments for human diseases and disabilities? What kind of people do we become if we use the results of the destruction of early human life for our own possible gain? Do we become individuals and communities with a respect for early human life that is unchanged, weakened, or enhanced? Do we become individuals and communities who are more willing to resort to a utilitarian calculus, sacrificing some (in fact, the most weak) for the benefit of others?

These are not mere rhetorical questions, for they get to the heart of the matter. Taking life (and, biologically speaking, the early human embryo

constitutes life) to save life is an *unprecedented step* in the history of medicine and one that we should not take uncritically. It would be a shame if, in the end, humanity wound up asking incredulously, as do the "awakened" characters in Aldous Huxley's *Brave New World*, "How did we get here as a society?" and have to respond as they did: "By many small steps that went unquestioned."

By asking the questions we have, we hope to show that the ESCR debate is not simply a matter of destroying frozen embryos to save really sick people. Indeed, when the debate is phrased that way, the embryo really has no chance. Rather, as we see it, the debate is about the respect owed to early human life. How we resolve this issue will affect what society is and what its members become as individuals and communities.

In our opinion, destruction of human embryos for the benefit of others seems to cross a bright moral line that should not be crossed, lest society compromise itself and the very moral fabric upon which social interactions are based. Destruction of embryos reduces early human life to a means to the ends of those of us who were *not* destroyed as embryos. Problematic in itself, such reasoning could in the future make it easier for society to subordinate other classes of human beings to the goals of the majority or the more powerful.

Furthermore, in thinking this way, we could become individuals and communities that believe we have a positive moral obligation to do virtually anything and everything to cure disease and relieve pain and suffering, individuals and communities that refuse to come to terms with human finitude and limitation, and with the technological imperative, relying on science and medicine to resolve all human problems.

A final consideration concerns alternatives. The promise of ESCR is still very uncertain. There is yet much work to be done on ESCs before they can be used safely and effectively in patients. Adult stem cells, including those obtained from umbilical cord blood, have shown considerable promise therapeutically as well as with regard to their plasticity. They seem to provide a great opportunity for much additional research. [14] In addition, some researchers are proposing a concerted effort to obtain ESCs from miscarried fetuses. [15] While this has its own difficulties and limitations, it may be another alternative. If any of these turn out to be viable alternatives to the use of ESCs, it will become more difficult for researchers in Catholic hospitals to make a moral case for the use of ESCs derived by others. As individuals and communities, shouldn't we at least pursue proven, known, and ethical means of achieving the goals of stem cell research before we take the unprecedented step of taking life to save life? If there are goals and values that transcend that of curing people—and the authors of this article believe there are—seeking alternatives would seem to be a moral requirement.

All these factors need to be considered with great care and honesty in arriving at a judgment about the moral liceity of researchers in a Catholic hospital making use of human ESCs derived by others. When one takes all these factors into account, it would seem that making a case for the moral justifiability of such research in Catholic hospitals is extremely difficult, even in the absence of implicit formal cooperation. Were there not an ongoing destruction of human embryos in the process of obtaining ESCs, it might be somewhat easier to justify. But that is not the current situation.

### The Use of ESCs Derived by Others from Aborted Fetal Tissue for Research in Catholic Hospitals

May researchers in Catholic hospitals employ ESCs derived by others from the tissue of aborted fetuses? In this case, the researchers have no relationship whatsoever to the illicit acts of elective abortion, which occurs for reasons and through the actions of people completely unrelated to the procurement of stem cells (unlike the previous case, in which the destruction of embryos is done precisely to procure stem cells and done by those who want the stem cells for research). The researchers in this case contribute nothing to the acts of abortion, even given the fact that elective abortions are ongoing. It is highly improbable that the use of stem cells from aborted fetuses will affect the rate of abortions. Abortions are performed for reasons other than to obtain stem cells; they will happen in any case. Quite literally, the stem cells, as Kaveny observes, are a byproduct of the wrongdoing. [16] And it is quite likely that these "byproducts" are generationally quite distant from the original stem cells derived from the aborted fetuses. It does not appear that there would be any immediate or mediate material cooperation on the part of researchers in the Catholic hospitals who use ESCs derived by others from fetal tissue.

Might there be formal cooperation? Might at least some of the researchers in Catholic hospitals intend or approve of abortions as a source of the ESCs they need for their research? Because the researchers have no causal relationship to the particular abortions (that is, they have no control whatsoever over whether or not the abortions will occur), Kaveny questions whether what is at stake is truly intention. "Agents cannot intend an

outcome over which they know or believe their action has no influence," she writes. [17] Instead, what is at stake is wish or prediction: "However, there are also many means to their ends that agents do not and cannot intend, simply because they have no control over them. Here, prediction and wish come into play." [18] Applying this to the use of fetal tissue, Kaveny explains: "The researchers certainly predict that the abortions will occur, resulting in fetal remains of which they will make use. They wish and predict success to their own scientific efforts, for which a steady supply of fetal tissue is an indispensable means. However, they do not intend that the abortions be performed, because they exert absolutely no control over the decision to go forward with the procedures performed by the clinic." [19] If Kaveny is correct in her analysis, and we believe she is, then there is no formal cooperation here.

Although the researchers may not be intending the evil of abortion or contributing in any way to this wrongdoing, the fact remains that they are benefiting from it. The materials they are using in their research are tainted and, in that way, the researchers have some association with the wrongdoing. As in the use of ESCs derived by others from human embryos, other factors need to be considered in conducting a moral assessment of the procurement by others of ESCs from aborted fetal tissue—the possibility of scandal, a diminishment of the Catholic witness to the sacredness of life, and the effects upon the moral character of individuals and communities.

These are prudential judgments of a very serious nature that probably cannot be made outside of a particular situation. In some situations, these factors alone would be sufficient to bring one to the conclusion that the use of ESCs derived from aborted fetal tissue ought not to be done in a Catholic hospital. [20] In other situations, one might arrive at a different conclusion. All things being equal, because of the moral distance between researchers in Catholic hospitals and the moral evil of abortion from which the stem cells are ultimately derived, research employing these stem cells does seem to be morally permissible.

### May Catholic Health Care Facilities Employ Therapies Derived from ESCs?

The answer to this question depends in large part on the preceding analyses. In the case of therapies that might result from research using ESCs obtained from aborted fetal tissue, the answer, in principle, would seem to be yes, because of the great moral distance between the evil of the abortions that were the source of the stem cells and those who are administering and receiving the therapies. The latter individuals have no connection with the evildoing or with the research that led to development of the therapies, the therapies exist independent of them, and use of the therapies might achieve great good. This would seem to be analogous to the use of vaccines that were developed from aborted fetal tissue. But here, as previously, there are other considerations—the possibility of scandal, a diminishment of the Catholic witness to the sacredness of life, and the effects upon the moral character of individuals and communities. These and other considerations or circumstances could lead to a different conclusion in particular cases.

What about therapies developed from research on ESCs derived by others from frozen or cloned embryos? These therapies, if they ever occur, would have come into existence from the willful destruction of human embryos for the precise purpose of obtaining stem cells for research and the development of therapies. The therapies would be the culmination of the entire endeavor. The administration and use of these therapies would seem to constitute a complicity in the process that is morally unacceptable. This would surely be the case if the administration and use of these therapies required or encouraged the continued destruction of embryos.

Because the administration and use of these therapies would probably be very public and on a broad scale, scandal would likely become a more acute problem. Explanations that might reduce the possibility of scandal would be very difficult to come by. And the argument is more plausible in this case than in the one involving researchers that some people could be "led to sin" when they know that a Catholic hospital is employing therapies containing cells from willfully destroyed human life. Incipient human life was destroyed for *other people's* benefit and now those other people are benefiting from it in the form of these therapies. An institution that provided such therapies—while claiming to hold that human life is sacred in all its forms—would appear to be hypocritical. The administration and use of these therapies would appear to imply that the most vulnerable forms of human life can be sacrificed for the benefit of others.

Even though the therapies would be bettering human life and, in some instances, saving human life, it is quite possible that the use of the therapies would substantially weaken a Catholic witness to the sacredness of all life. And Catholic organizations would also have to consider the possible impact the use of these therapies would have on the moral characters of individuals and communities. Needless to say, forgoing such

therapies would create enormous difficulties for Catholic hospitals and the clinicians working in them.

In sum, we do not believe that the use of ESCs by researchers in Catholic hospitals, derived by others from frozen or cloned embryos, is morally justifiable. In addition to the strong possibility that this would involve implicit formal cooperation (and, surely, explicit formal cooperation among some researchers), such a practice would also contribute to a societal attitude that it is permissible to sacrifice the most vulnerable form of human life for the potential benefit of already-born human beings. The use of therapies derived from these ESCs in Catholic health care facilities also does not appear to be morally justifiable.

On the other hand, the use of ESCs derived by others from aborted fetal tissue by researchers in Catholic hospitals does seem to be morally justifiable, primarily because of the significant moral distance between the researchers and the evil of abortion. The same would be true of any therapies that might be developed from these stem cells. However, the association of the research and the possible therapies with abortion should be a cause of considerable discomfort. Because of the church's commitment to human life in all its forms and the permissive attitude toward abortion in American society, prudence might dictate that such research and potential therapies be forgone.

Perhaps the role for Catholic health care is to mine the alternatives to ESCR. The price of doing this and not engaging in all forms of ESCR might be high, but integrity is usually costly. And focusing on the alternatives might enable Catholic health care and the church to witness to some very important lessons about the technological imperative, limits, and human finitude, as well as the sacredness of incipient human life. ■

## NOTES

1. Strictly speaking, stem cells are extracted from "blastocysts" (at the four-five day stage), not from embryos.
2. Pope John Paul II, "Evangelium Vitae," *Origins,* April 6, 1995, para. 60.
3. Pope John Paul II, para. 63. For many years now, there has been a debate even within Catholic circles about the moral status of embryos. Some Catholic theologians maintain that a human embryo only gradually acquires its status as a person with all the rights of a person. This analysis assumes the traditional Catholic position on the moral status of embryos.

   For discussions of the "developmental" approach, see, for example, Lisa Sowle Cahill, "The Embryo and the Fetus: New Moral Contexts," *Theological Studies,* vol. 54, 1993, pp. 124-142; Margaret Farley, "Roman Catholic Views on Research Involving Human Embryonic Stem Cells," in Suzanne Holland, Karen Lebacqz, and Lauri Zoloth, eds., *The Human Embryonic Stem Cell Debate: Science, Ethics, and Public Policy,* MIT Press, Cambridge, MA, 2001, pp. 113-118; John Collins Harvey, "Distinctly Human: The When, Where & Why of Life's Beginnings," *Commonweal,* vol. 129, no. 3, February 8, 2002, pp. 11-13; Paul Lauritzen, "Neither Person nor Property," *America,* vol. 184, no. 10, March 26, 2001, pp. 20-23; Richard A. McCormick, "Who or What Is the Preembryo?" in *Corrective Vision: Explorations in Moral Theology,* Sheed & Ward, Kansas City, 1994, pp. 176-188; Michael Panicola, "Three Views of the Preimplantation Embryo," *National Catholic Bioethics Quarterly,* vol. 2, no.1, Spring 2002, pp. 69-97; Jean Porter, "Is the Embryo a Person?" *Commonweal,* vol. 129, no.3, February 8, 2002, pp. 8-10; and Carol Tauer, "The Tradition of Probabilism and the Moral Status of the Early Embryo," *Theological Studies,* vol. 45, 1984, pp. 3-33.
4. Pontifical Academy for Life, "Declaration on the Production and the Scientific and Therapeutic Use of Human Embryonic Stem Cells," August 25, 2000, available at www.vatican.va/roman_curia/pontifical_academies/ acdlife/documents/rc_pa_acdlife_doc_20000824_cellule-staminali_en. html.
5. Pontifical Academy for Life.
6. We should mention here that Catholic teaching would not allow for the procurement of cells from either frozen or cloned human embryos because those processes result in their destruction. How the human embryo came into existence has no bearing on the moral analysis.

   Interestingly, some have proposed in theoretical terms a way of using cloning technologies (called altered nuclear transfer, or ANT) to create entities that would not be considered human embryos as such but would be altered at the gamete level so that they would consist of pluripotent stem cells that could be used in a fashion similar to the one from which human embryos (one form of this is oocyte-assisted reprogramming) are obtained. Several influential prolife individuals, including some within the Catholic Church, have publicly supported ANT; we, however, believe it raises important ethical issues that need to be considered on their own account. Given the speculative nature of ANT and its far-off research and clinical relevance for Catholic hospitals, a discussion of these issues will not be undertaken in this article. For a review of ANT, see Center for Bioethics & Human Dignity, "Production of Pluripotent Stem Cells by Oocyte Assisted Reprogramming: Joint Statement," available at www.cbhd.org/resources/stemcells/jointstatment_2005-06-20.htm; and President's Council on Bioethics, "Alternative Sources of Human Pluripotent Stem Cells," www.bioethics.gov/reports/white_paper/index.html.
7. Cathleen Kaveny, in "Appropriation of Evil: Cooperation's Mirror Image" (*Theological Studies,* vol. 61, no. 2, June 2000, pp. 280-313), proposes a new category to address some forms of complicity in evil, namely, evil that has occurred in the past. She does not believe that the principle of cooperation applies to these situations because one cannot cooperate in an action that has already occurred. Hence, rather than requiring the cooperator to decide whether he or she can morally perform an action that contributes to the evildoing of a principal

agent, the principal agent (formerly the cooperator) must decide "whether or not to take up and incorporate the fruits or byproducts of someone else's illicit action into his or her own activity" (281). Of particular concern is whether the principal agent "ratifies" the evildoing of another and the effects of complicity on the moral character of the principal agent.

8. Kaveny refers to this as "ratification" of the evil of which the appropriator makes use. "When an appropriator ratifies an appropriated action, he or she takes it up and makes use of it under the intentional description it was given by the auxiliary agent. In effect, the action of the auxiliary agent becomes the appropriator's by adoption. . . . The most important question is whether the appropriator intends to ratify the auxiliary agent's wrongful act in making use of that act's fruits or byproducts. Does the appropriator make use of them as if it were the appropriator's own action, as if it were an action that he or she would have engaged in, given the opportunity and/or necessity" ("Appropriation of Evil," p. 307).
9. Peter Cataldo, PhD, comes to this conclusion by applying the principle of cooperation, in "A Cooperation Analysis of Embryonic Stem Cell Research," *National Catholic Bioethics Quarterly,* vol. 2, no. 1, Spring 2002, pp. 35-4. Fr. Kevin O'Rourke, OP, JCD, STM, also comes to this conclusion, in his case employing the principle of cooperation, although he does not seem to limit his position to federally qualified lines (that is, ESC lines developed up to the time of President Bush's speech); see O'Rourke, "Stem Cell Research: Prospects and Problems," *National Catholic Bioethics Quarterly,* vol. 2, no. 1, Spring 2002, pp. 289-299. Jan Heller comes to a similar conclusion, arguing on the basis of complicity; see Heller, "Complicity in Embryonic and Fetal Stem Cell Research and Applications," in J. M. Humber and R. F. Almeder, eds., *Biomedical Ethics Reviews: Stem Cell Research,* Totowa, NJ, Humana Press, pp.123-147.

   Others have come to a different conclusion. See Albert Moraczewski, "May One Benefit from the Evil Deeds of Others?" *National Catholic Bioethics Quarterly,* vol. 2, no.1, Spring 2002, pp. 43-47; and Vincent Branick and M. Therese Lysaught, "Stem Cell Research: Licit or Complicit?" *Health Progress,* vol. 80, no. 5, September-October 1999, pp. 37-42.
10. See for example, Chad Cowan, et. al., "Derivation of Embryonic Stem-Cell Lines from Human Blastocysts," *New England Journal of Medicine,* vol. 350, no. 13, March 25, 2004, pp. 1,353-1,356; and John Gearhart, "New Human Embryonic Stem-Cell Lines—More Is Better," *New England Journal of Medicine,* vol. 350, no. 13, March 25, 2004, pp. 1,275-1,276. In early June 2006, scientists at Harvard University and Children's Hospital in Boston announced that they had received the green light to begin cloning human embryos in order to obtain ESCs. The University of California-San Francisco is engaged in a similar though smaller effort.
11. Since November 2004, at least four states have decided to allocate billions of dollars to ESC research. At least two leading universities—Harvard and Stanford—have announced very active and aggressive ESC programs. The U.S. House of Representatives voted by a wide margin in May 2005 to broaden the eligibility criteria for federal funding of ESC research. Several states have passed legislation in support of such research and some states are considering legislation in support of therapeutic cloning.
12. Branick and Lysaught, p. 40.
13. Kaveny, p. 289.
14. See, for example, William Tse and Mary J. Laughlin, "Umbilical Cord Blood Transplantation: A New Alternative Option," *Hematology,* 2005, pp. 377-383; V. Rocha, et al., "Clinical Use of Umbilical Cord Blood Hematopoietic Stem Cells," *Biology of Blood and Marrow Transplantation,* vol. 12, no. 1, January 2006, pp. 34-41; and S. M. Watt and M. Contreras, "Stem Cell Medicine: Umbilical Cord Blood and Its Stem Cell Potential," *Seminars in Neonatal Medicine,* vol. 10, no. 3, June 2005, pp. 209-220.
15. See Maria Michejda, "Spontaneous Miscarriages as Source of Fetal Stem Cells," *National Catholic Bioethics Quarterly,* vol. 2, no.3, Autumn 2002, 401-411.
16. Kaveny takes a somewhat different view here: "Precisely because the widespread practice of elective abortion generates a stable, long-term supply of aborted fetuses that would otherwise be unavailable, it would be very easy for the researchers to begin to view that practice more positively than they otherwise would. They might also come to depend upon the amount of fetal tissue it produces for their work in a way that would mute their opposition to the practice, or hamper their effectiveness in opposing it should the occasion for them to do so arise" (p. 310). Although surely possible, this scenario is not the inevitable outcome of the use of stem cells from fetal tissue.
17. Kaveny, p. 298.
18. Kaveny offers the following as an example: "Other times, the requisite means is an intentional action performed by someone else. Hollywood tour bus operators ordinarily cannot intend that Mel Gibson jog every morning along a certain beach in Malibu, since they have no control over his route. They can, however, predict and wish that Mel will do so . . ." (p. 299).
19. Kaveny, pp. 300-301.
20. Russell Smith, using the principle of cooperation, comes to the conclusion that the use of fetal tissue from elective abortions constitutes proximate, mediate, contingent, material cooperation. This classification would suggest that the practice is morally acceptable, at least in some circumstances. Smith, however, comes to the opposite conclusion. He does so, not on the basis of the principle of cooperation, but rather because "the value of the lives aborted would be further denigrated by making the victims mere instruments of medical progress" (Smith, "The Principle of Cooperation in Catholic Thought," in Peter J. Cataldo and Albert S. Moraczewski, eds., *The Fetal Tissue Issue: Medical and Ethical Aspects,* Pope John Center, Braintree, MA, 1994, p. 90.